

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Previously Presented) A method for immersing a substrate into a fluid solution having an anode placed therein, sequentially comprising:
 - loading a substrate into a receiving member;
 - tilting the receiving member to a first tilt angle measured from horizontal;
 - displacing the receiving member toward the fluid solution at the first tilt angle;
 - tilting the receiving member to a second tilt angle measured from horizontal when the substrate contacts the fluid solution, the second tilt angle being different from the first tilt angle;
 - tilting the substrate to a substantially horizontal position; and
 - positioning the substrate at a processing angle such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode placed in the fluid solution, the processing angle is different than the first angle and the second angle, wherein the anode is tilted from horizontal at between about 3° and about 30°.
2. (Original) The method of claim 1, wherein the first tilt angle is between about 3° and about 10°.
3. (Canceled)
4. (Original) The method of claim 1, further comprising rotating the receiving member at a rotation rate of between about 30 rpm and about 240 rpm.
5. (Original) The method of claim 1, further comprising oscillating the second tilt angle once the substrate is immersed in the fluid solution.
6. (Original) The method of claim 5, further comprising oscillating the substrate in a vertical direction once the substrate is immersed in the fluid solution.

7. (Canceled)

8. (Previously Presented) A method for minimizing bubble adherence to a substrate during a substrate immersion process, sequentially comprising:

tilting the substrate to a tilt angle measured from horizontal;

vertically actuating the substrate toward a fluid solution having an anode placed therein while maintaining the tilt angle;

reducing the tilt angle to a second angle once the substrate contacts the fluid solution, while continuing the vertical actuation of the substrate;

reducing the tilt angle to about horizontal; and

positioning the substrate at a processing angle such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode placed in the fluid solution, the processing angle is different than the tilt angle and the second angle, wherein the anode is tilted between about 3° and about 30°.

9. (Original) The method of claim 8, further comprising rotating the substrate at a rate of between about 60 rpm and about 120 rpm.

10. (Original) The method of claim 8, further comprising oscillating the tilt angle of the substrate after the substrate is immersed in the fluid solution and before positioning the substrate at the processing angle.

11. (Canceled)

12. (Original) The method of claim 8, wherein the tilt angle is between about 3° and about 7°.

13. (Original) The method of claim 8, wherein the tilt angle is reduced to horizontal before the vertical actuation is completed.

14. (Original) The method of claim 8, wherein the tilt angle is greater than 0° at a time when the substrate becomes completely immersed in the fluid solution.

15. (Previously Presented) A method for immersing a substrate into a plating electrolyte having an anode placed therein, sequentially comprising:

positioning the substrate on a contact ring;

securing the substrate to the contact ring with a thrust plate assembly;

tilting the contact ring to a tilt angle of between about 3° and about 7°;

vertically actuating the contact ring toward the plating electrolyte while maintaining the tilt angle;

rotating the contact ring at a rotation rate of between about 30 rpm and about 120 rpm;

reducing the tilt angle to a second angle when the contact ring initially touches the plating electrolyte;

reducing the tilt angle to about horizontal; and

positioning the substrate in a processing position at a processing angle such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode placed in the plating electrolyte, the processing angle is different than the tilt angle and the second angle, wherein the anode is tilted between about 3° and about 30°.

16. (Original) The method of claim 15, further comprising reducing the tilt angle to about horizontal before stopping the vertical actuation.

17.-18. (Canceled)

19. (Previously Presented) The method of claim 15, further comprising oscillating the tilt angle of the substrate after the tilt angle is reduced to about horizontal.

20. (Original) The method of claim 15, further comprising maintaining a central axis of the substrate proximate a center of the electrolyte solution during the immersion process.

21. (Previously Presented) The method of claim 1, further comprising tilting the receiving member from the first tilt angle through an intermediate position to the second tilt angle while maintaining the receiving member and the substrate loaded thereon immersed in the fluid solution, wherein at the intermediate position the surface of the substrate is substantially parallel to the surface of the anode.

22. (Currently Amended) The method of claim 8, further comprising tilting the receiving member from the first tilt angle through an intermediate position to a the second tilt angle while maintaining the receiving member and the substrate loaded thereon immersed in the fluid solution, wherein at the intermediate position the surface of the substrate is substantially parallel to the surface of the anode.

23. (Previously Presented) A method for immersing a substrate into a plating solution contained in a plating cell of a plating apparatus, the plating cell having an anode placed therein, sequentially comprising:

loading a substrate into a receiving member of the plating apparatus;
tilting the receiving member to a first tilt angle relative to a surface of the anode;
immersing the substrate into the plating solution of the plating cell;
pivoting the receiving member from the first tilt angle through an intermediate position to a second tilt angle different than the first tilt angle while maintaining the substrate immersed in the plating solution, wherein at the intermediate position the surface of the substrate is substantially parallel to the surface of the anode; and

tilting the substrate being held by the receiving member from the second tilt angle into a third tilt angle from horizontal that is different than the first and second tilt angles such that a plating surface of the substrate is positioned substantially parallel to the surface of the anode.

24. (Previously Presented) The method of claim 23, wherein the anode is tilted between about 3° and about 30°.

25. (Canceled)

26. (Previously Presented) The method of claim 23, further comprising vertically displacing the substrate while the substrate is immersing inside the plating solution.